Small Business Innovation Research/Small Business Tech Transfer

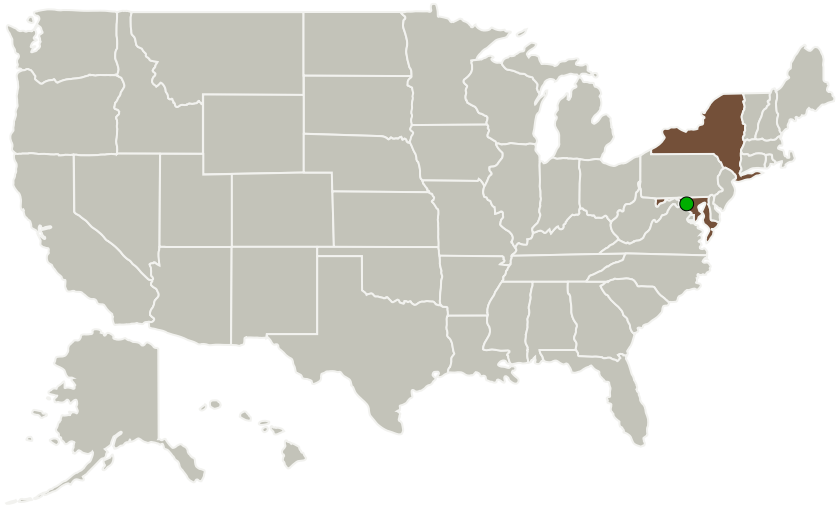
Manufacture of Monolithic Telescope with a Freeform Surface, Phase I

Completed Technology Project (2015 - 2015)

Project Introduction

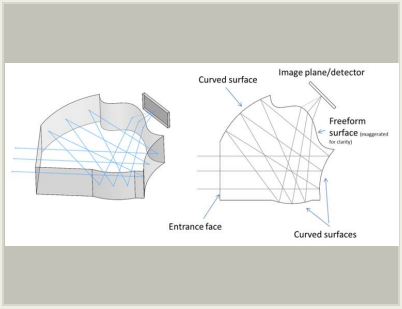
Monolithic freeform telescopes offer the potential to positively address the size, weight and vibration concerns associated with flight telescope systems. We propose to prove feasibility that our optics manufacturing process is capable of producing of a freeform optical telescope system by manufacturing and testing four optical surfaces on four sides of a single high purity optical material. The resulting working monolithic telescope will include a high precision freeform surface. The capability of in adding of a freeform surface in a monolithic optical telescope design offers flexibility to create more compact designs, larger fields of view, and better-performing unobscured systems.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
Optimax Systems, Inc.	Lead Organization	Industry	Ontario, New York
Goddard Space Flight Center(GSFC)	Supporting Organization	NASA Center	Greenbelt, Maryland

Primary U.S. Work Locations	
Maryland	New York



Manufacture of Monolithic Telescope with a Freeform Surface, Phase I

Table of Contents

Manufacture of Monolithic Telescope with a Freeform Surface, Phase I

Completed Technology Project (2015 - 2015)

Project Transitions

June 2015: Project Start

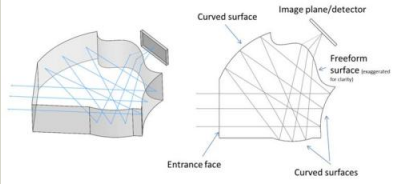
December 2015: Closed out

Closeout Summary: Manufacture of Monolithic Telescope with a Freeform Surface, Phase I Project Image

Closeout Documentation:

- Final Summary Chart Image*(https://techport.nasa.gov/file/139075)*

Images



Briefing Chart Image
Manufacture of Monolithic Telescope with a Freeform Surface, Phase I
(https://techport.nasa.gov/image/127516)

Organizational Responsibility

Responsible Mission Directorate:
Space Technology Mission Directorate (STMD)

Lead Organization:
Optimax Systems, Inc.

Responsible Program:
Small Business Innovation Research/Small Business Tech Transfer

Project Management

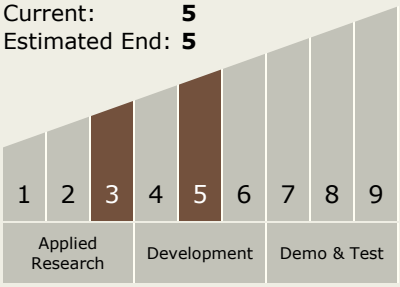
Program Director:
Jason L Kessler

Program Manager:
Carlos Torrez

Principal Investigator:
Todd Blalock

Technology Maturity (TRL)

Start: **3**
Current: **5**
Estimated End: **5**



Manufacture of Monolithic Telescope with a Freeform Surface, Phase I

Completed Technology Project (2015 - 2015)

Technology Areas

Primary:

- TX12 Materials, Structures, Mechanical Systems, and Manufacturing
  - TX12.4 Manufacturing
    - TX12.4.3 Electronics and Optics Manufacturing Process

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System